



A.D. 1849 N° 12,454.

S P E C I F I C A T I O N

OF

THOMAS SNOWDON.

MACHINERY FOR MOULDING AND PRESSING
ARTIFICIAL FUEL AND BRICKS.

L O N D O N :

PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,

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A.D. 1849 N° 12,454.

**Machinery for Moulding and Pressing Artificial Fuel
and Bricks.**

SNOWDON'S SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, THOMAS SNOWDON, of Noel Street, in the County of Middlesex, Engineer, send greeting.

WHEREAS Her present most Excellent Majesty Queen Victoria, by Her
5 Royal Letters Patent under the Great Seal of Great Britain, bearing date at
Westminster, the Sixth day of February, One thousand eight hundred and
forty-nine, in the twelfth year of Her reign, did, for Herself, Her heirs and
successors, give and grant unto me, the said Thomas Snowdon, my exors,
admsors, and assigns, Her especial licence, full power, sole privilege and
10 authority, that I, the said Thomas Snowdon, my exors, admsors, and assigns,
and such others as I, the said Thomas Snowdon, my exors, admsors, or
assigns, should at any time agree with, and no others, from time to time and
at all times during the term of years therein expressed, should and lawfully
might make, use, exercise, and vend, within England, Wales, and the Town
15 of Berwick-upon-Tweed, my Invention of "IMPROVEMENTS IN MACHINERY FOR
MOULDING AND PRESSING ARTIFICIAL FUEL AND BRICKS;" in which said Letters
Patent is contained a proviso that I, the said Thomas Snowdon, should
cause a particular description of the nature of my said Invention, and in what
manner the same is to be performed, by an instrument in writing under my
20 hand and seal, to be inrolled in Her said Majesty's High Court of Chancery
within six calendar months next and immediately after the date of the said

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in part recited Letters Patent, as in and by the same, reference being thereunto had, will more fully and at large appear.

NOW KNOW YE, that, in compliance with the said proviso, I, the said Thomas Snowdon, do hereby declare that the nature of my said Invention, and the manner in which the same is to be performed, are fully described 5 and ascertained in and by the following statement thereof, reference being had to the Drawings hereunto annexed, and to the figures and letters marked thereon, that is to say :—

My Invention consists of a mode of combining mechanical parts into a machine for moulding and pressing artificial fuel and bricks. And in order that 10 my Invention may be most fully understood and readily carried into effect, I will proceed to describe the means pursued by me.

DESCRIPTION OF THE DRAWINGS.

Figure 1 shews a plan of a machine constructed according to my Invention; Figure 2 shews a side elevation of the machine; Figure 3 shews a 15 transverse section of the machine taken at the dotted line 1, 1, in Figure 1; and Figure 4 shews an end view, partly in section. In each of these Figures the same letters indicate similar parts. *a* is the main or driving shaft, to which motion is communicated from a steam engine or other power. On this shaft is fixed the wheel *b*, having two crank pins *c*, *c*, 20 fixed at opposite sides thereof, which are intended to lift the two levers *d*, *d*, which give motion to the two rams in the two moulds *e*, *e*. The two levers *d*, *d*, move on the axes *f*, and they only lift the rams *g*, *g*, a sufficient height to mould and press the fuel to the degree desired, other apparatus hereafter described then lifting the rams so as to deliver the moulded and 25 pressed fuel leaving the levers *d*, *d*, to descend as they successively are raised to their highest position of action by the crank pins *c*. On the axis or shaft *a*, are fixed cams *i*, *i*. *j*, *j*, the shorter ones, first acting on the framed ends *k* of the connecting rods *k*¹, so as to move them a short distance, so as to bring the sliding covers *l*, hereafter described, over the moulds; and the longer cams *j*, *j*, 30 succeeding in their action on the framed ends of the connecting rods, move the sliding covers a greater distance, and so as to leave the moulds uncovered, and allow of the pressed fuel being raised out of the moulds by the rams when they are lifted up by the apparatus hereafter explained; and the connecting rods are brought back by projections *j*¹, *j*¹, on the sides of the cams *j*, which 35 act against pins in the framed end of the connecting rods. The connecting rods *k*¹ are connected at their other ends to the links *m* by pin joints, and the links *m* are attached by pin joints to the cranks *n*, *n*, on the vertical

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axes o, o , such vertical axes having also cranks o^1, o^1 , which by suitable links are connected to the sliding covers l, l . Both the covers l are now shewn nearly in the same positions, that is, covering their respective moulds e ; but as the cams i, j , for the two covers l , are in opposite positions on the axis, the one
5 will be slided back, whilst the other will be slided forward, so as to allow of the fuel in that mould being raised out thereof, and when the fuel has been raised out of either mould, the sliding cover of that mould will force it away, and the prepared fuel in the compartment l^1 of that slide will fall into the mould e , when that part of the slide comes over the mould, and that will be
10 the case when the slide l is as far back as it can go, at which time the opening l^1 through the slide l will also be open to the upper part or hopper p of the mould, which is kept full of the prepared fuel which is to be pressed, such as small coal mixed with tar or other combinations of matter which is sufficiently in a granular state to flow into the mould below. From this
15 position the slide l of each mould will be moved by its cam i ; and then the mould e below, being full of the prepared fuel, will have such fuel pressed by the ram being raised by its lever; and when such pressure has been obtained to the fuel, the slide l will be moved further forward by the cam j , at which time the mould will be uncovered, and the pressed fuel will be raised out
20 thereof, as hereafter explained; and in order to prevent the fuel which is in the part l^1 of the slide from dropping out when the slide is in this position, there is to be a projecting plate q for the slide to move on, so as for the time being to close the bottom of the part l^1 of the slide. In order to raise the rams beyond the distance to which the pressing levers raise them, I apply
25 curved projections r , formed on or affixed to the wheel b , which in the rotation of the wheel b act at the proper times on the cranked levers t , which have connecting rods a , which connect them with the crank levers v , these levers respectively, by straps w , acting on the rams in the moulds e , so that when the cover l of either mould is off its mould, this part of the apparatus in con-
30 nection with the ram therein will come into action, and raise the ram, and consequently remove the fuel out of that mould; and its slide l , in going back, will force such fuel off the top of the ram, and allow of the ram going down in its mould, so that when the slide l has gone back the fuel may fall into the mould to re-charge it. The levers d, d , have each a piston rod of an air
35 cylinder x attached thereto, and the two air cylinders are connected together at bottom, so that the air passes out of one into the other, the object being to get an air or elastic bed for the levers d to fall on, in order to prevent shock. And although I do not claim any particular mode of communicating motion to the axis or shaft a , I have shewn a steam engine y in the position I prefer

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to have it, giving motion to a wheel *z*, which in turn gives motion to the axis *a*.

In the above description I have confined myself to speaking of artificial fuel, but similr presses may be made with proper moulds for making bricks ; but in place of having the brick-earth in a plastic state, it will require to have 5 only so much moisture as to be in a granular state.

Having thus described the nature of my Invention, and the manner in which the same is to be performed, I would have it understood that I do not confine myself to the details herein described, so long as the peculiar character of the combination of pressing machinery be retained ; but what I claim is the mode 10 of combining mechanical parts into a machine, as explained.

In witness whereof, I, the said Thomas Snowdon, have hereunto set my hand and seal, this Sixth day of August, in the year of our Lord One thousand eight hundred and forty-nine.

(L.S.) THOMAS SNOWDON. 15

CROSBY. AND BE IT REMEMBERED, that on the Sixth day of August, in the year of our Lord 1849, the aforesaid Thomas Snowdon came before our said Lady the Queen in Her Chancery, and acknowledged the Specification aforesaid, and all and every thing therein contained and specified, in form above written. And also the Specification aforesaid was stamped according to the 20 tenor of the Statute made for that purpose.

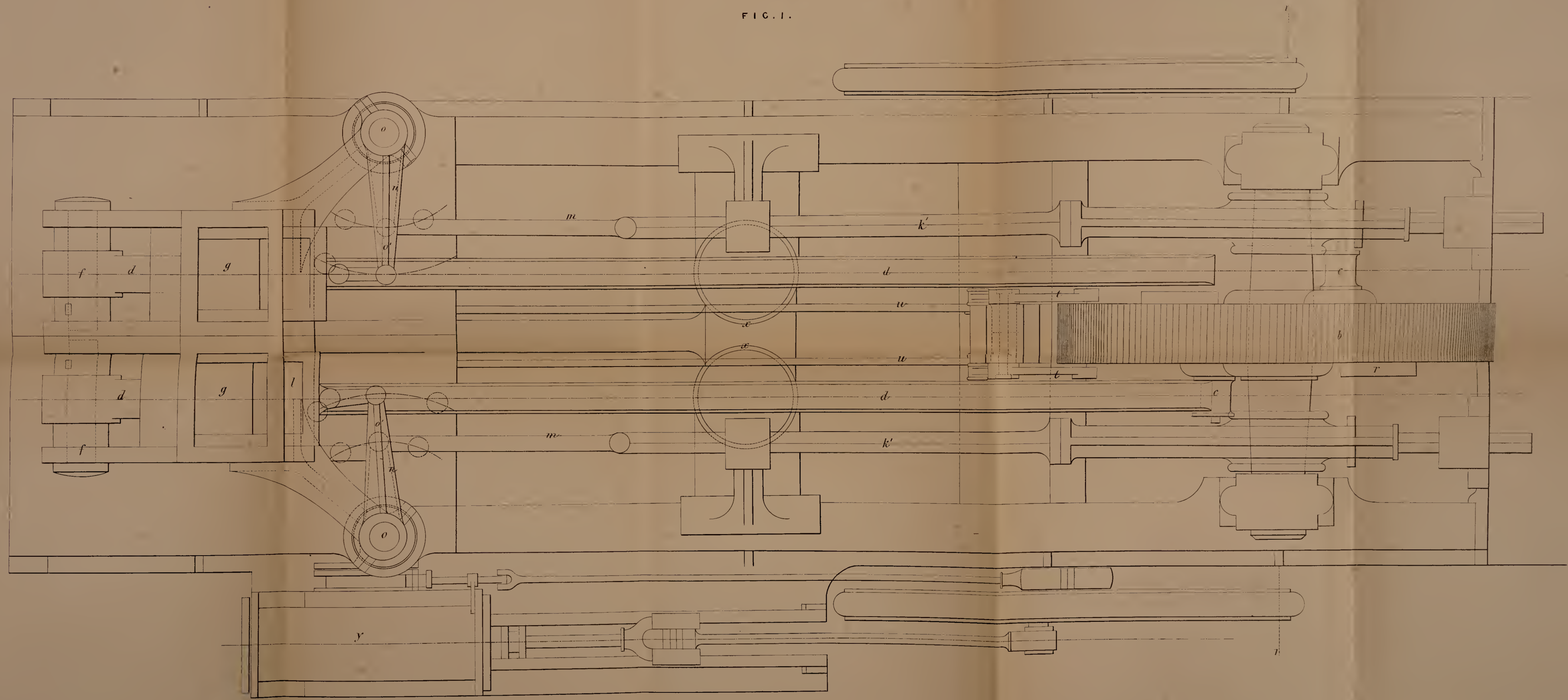
Enrolled the Sixth day of August, in the year of our Lord One thousand eight hundred and forty-nine.

LONDON:

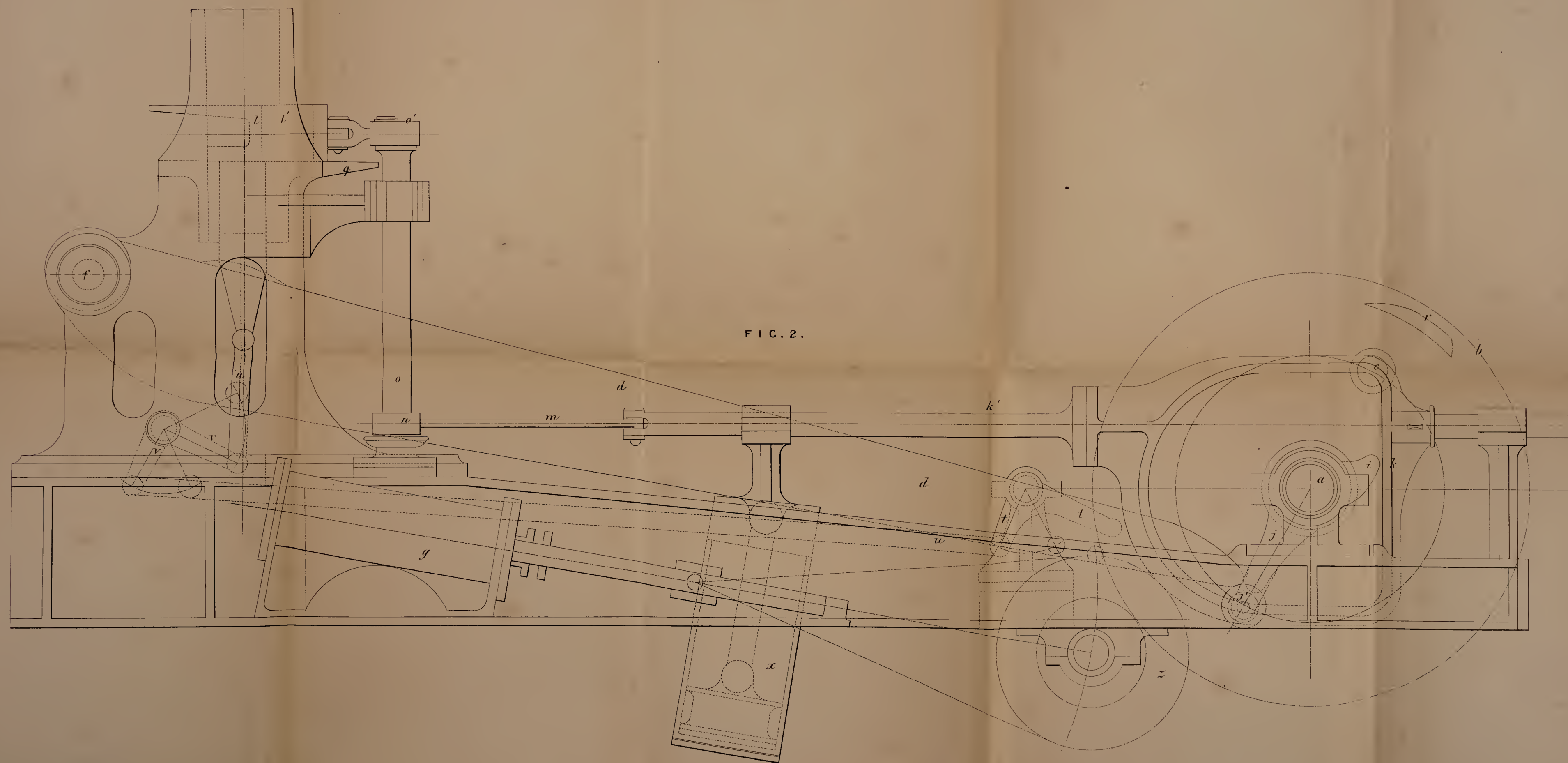
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SNOWDON'S SPECIFICATION.

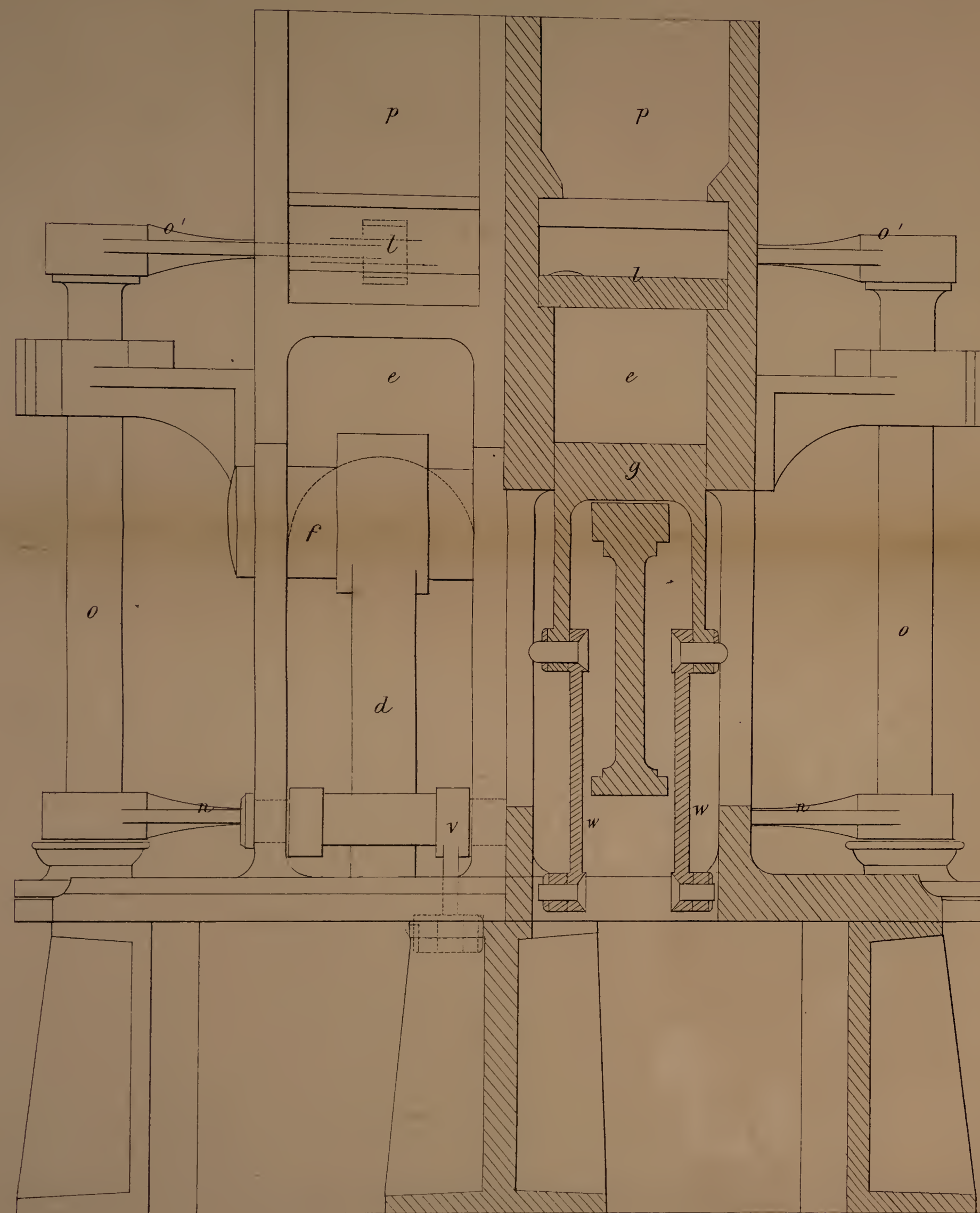
FIG. 1.



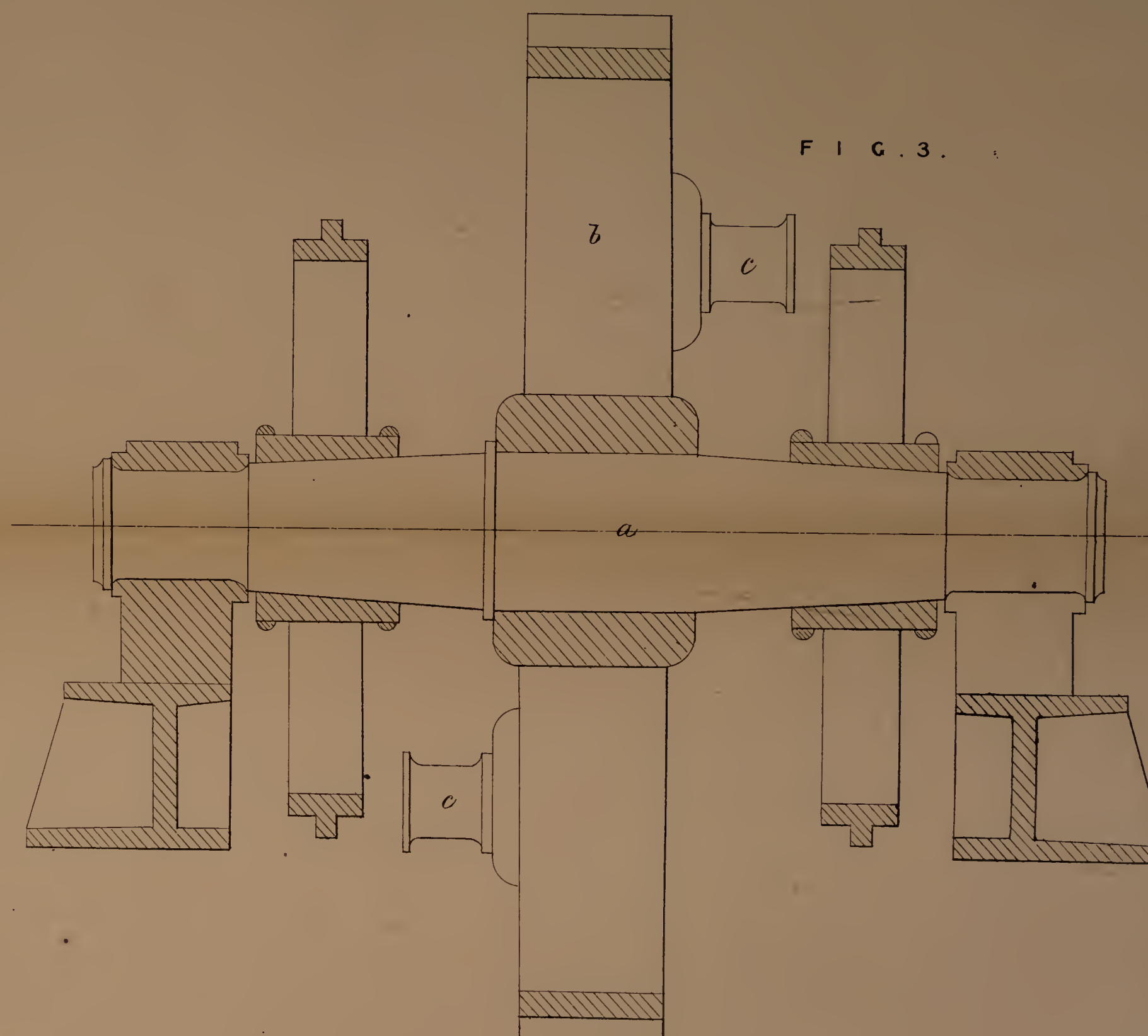
The enrolled drawing is partly colored.



F I G . 4 .



F I G . 3 .



The enrolled drawing is partly colored.

Drawn on Stone by Malby & Sons

